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TERTIARY "EDUCATION BOOM IN EU COUNTRIES: KEY TO ENHANCING COMPETITIVENESS OR A WASTE OF RESOURCES?"

Summary: In recent decades, in most EU countries, there has been a significant increase in the share of the population with higher education. This phenomenon, generally viewed positively as contributing to building a knowledge-based economy and improving the competitiveness of EU economies, raises concerns about the effectiveness of the functioning of national education sectors. Interestingly, significant differences between member states, both in terms of the dynamics and the structures of higher education, are observed. The purpose of this article is to discuss some differences in the share of people with higher education, to identify the main potential consequences of the changes observed and to identify the most important challenges for the sector of higher education in the EU in the coming years. The context of the analysis provided by the Europe 2020 Strategy.

Keywords: higher education, structure of education, competitiveness, European Union, Europe 2020 Strategy.

Introduction

In the EU-15 („old” member states), the average share of persons with tertiary attainment in education in the group aged 25-64 grew from 17.7% in 1995 to 30.8% in 2014 [Eurostat, 2015]¹. In many countries, higher education has become the most popular ISCED level of education in this age group². The issue of

¹ Eurostat does not offer data for new member states for such a remote period of time. That is why the data in the text refer to the EU-15. However, the average share of persons with tertiary education in the EU-28 for 2014 is quite similar and, in 2014, equals 29.3%.

² Poland is an example of such a country.

the determinants of a boom in tertiary education across EU countries and the question of reasons for its diversification across different member states are some of the most important factors in the European educational policy and labour market policy.

The growing popularity of tertiary education may affect different aspects of the EU’s social and economic functioning. Generally, it has been regarded as a mostly positive phenomenon that is supposed to make the EU „the most competitive and dynamic knowledge-based economy in the world” (Lisbon Strategy) and to boost growth and employment (Europe 2020). The question of consequences – for the labour market, innovation and productivity growth – is a key issue in the EU’s economic policy towards regional and global challenges. On the other hand, questions concerning the efficiency of the tertiary education system are often raised. The tertiary education system absorbs a quite considerable amount of resources, both public and private³. Alternative costs of higher education are also important, since continuation of education up to the tertiary level requires the postponement of entry to the labour market. From an economic perspective, the tertiary education sector cannot be assessed without reference to the labour-market experience of its graduates. Their employability and the market’s characteristics are key criteria in this context. Particularly in the last decade, issues of the alleged overeducation and qualification mismatch of tertiary graduates has gained particular attention in both popular and academic debates [Barone, Ortiz, 2010].

The paper has two aims. One is to assess changes in the patterns of education among young Europeans in different EU countries in the context of the tertiary education boom. The other is to discuss the consequences of the growth in tertiary education incidence and changes in its structure for economies of EU member states.

The first part of the paper addresses the issue of the supply of tertiary education graduates in enhancing competitiveness and economic growth, while the second discusses the changes in the patterns of tertiary education in EU countries in recent years. The final part identifies the main challenges for tertiary education systems in EU countries in coming years.

³ As for public expenditures, it varies from 0.66% of the GDP in Bulgaria up to 2.13% in Finland (latest data, 2012) [Eurostat, 2015].

1. Role of tertiary education in enhancing competitiveness and growth

There is evidence suggesting that tertiary education is both a result and a determinant of income [Barro, 1997; Chuang, 2000]. It may produce both public and private benefits. Higher education may lead to higher tax revenues, increased savings and investment, and lead to a more entrepreneurial and active society. It can also improve people's health, accelerate technological progress and strengthen governance.

The idea that education contributes to economic performance is generally based on human capital theory [Becker, 1975]. On an empirical basis, it is strongly embodied in analyses based on the Mincerian wage equation. Mincerian earnings equations relate the wage rates of individual-to-individual characteristics, including the level of educational attainment status. Psacharopoulos and Patrinos [2002] provide a comprehensive review of four decades of research based on the Mincerian equation. Among other things, they find that the rates of return generally fall by the levels of educational and economic development, and that while the average number of years of schooling has increased, the rate of return is declining.

Higher education can lead to economic growth through private and public channels. The private benefits for individuals include, above all, better employment prospects and higher wages. These benefits may result in better health and improved quality of life. Life expectancy improvements enable individuals to work more productively over a longer time. This, in turn, further boosts lifetime earnings. Public benefits are less well recognized. Higher earnings for well-educated individuals raise tax revenues for governments and ease demands on public finances.

For a long time, tertiary education has been relatively neglected in the international development literature, largely because of the belief that it yields lower social returns relative to other investments in human capital – especially primary and secondary education. Investments in tertiary education are often considered regressive. They are also regarded as perpetuating existing social and economic inequalities [UNDP, 2001]. While the returns on investment in basic education are almost immediate and highly visible, the returns on tertiary education are far more difficult to measure and elusive [Brown and Heaney, 1997].

On the other hand, in a world in which technology is changing rapidly, it makes a significant difference to the economic growth of nations. It has been shown that the level of achievement in technology depends critically upon the level of tertiary education in a given economy [UNDP, 2001]. Most countries

with high enrolment ratios in higher education became ‘leaders’ in technology, with high levels of achievement in the subject. The opposite is also true: countries with low enrolment ratios (less than 10%) are usually ‘marginalized’ in the area of technology. There are no countries with an enrolment ratio of less than 10% in tertiary education which have achieved a high or medium level of achievement in the technology index [Tilak, 2003].

In a knowledge-based economy, tertiary education can help economies to keep up or catch up with more technologically advanced societies. Higher education graduates are likely to be better able to use modern technologies. They are also more likely to develop new tools and skills themselves.

There are also effects of tertiary education on economic globalization processes. Education affects the structure of exports: the more years attained, the more sophisticated and diversified the exports. The Heckscher-Ohlin model – the main model employed by traditional trade theorists to understand trade flows – predicts that natural resources and skilled/unskilled labour will determine the comparative advantage of a country and thus its specialization. It is also important for participating in knowledge-intensive services exports (e.g., India, Singapore, Poland). As for private cross-border financial flows (inward FDI), the availability of technical and engineering graduates facilitates manufacturing FDI. It may also have a strong effect on emigration, but in particular occupations/countries.

2. Growing popularity of tertiary education in EU countries

In 2014, there were only three EU member states in which the share of people with the highest formal level of education in the total population aged 25-64 was below 20%⁴. These were Romania, Italy and Malta. On the other hand, there were five countries in which more than four out of 10 people possessed a university diploma (or the equivalent). This group of countries included Cyprus, the United Kingdom, Ireland, Finland and Luxembourg. Surprisingly for some, Poland was found to be close to a lower end of scale, with a share of 27.0%. That may be attributed to the fact that the educational structure of a society is subject to quite strong inertia. Its current shape is the result of past educational decisions. Since Poland entered a transition period with a relatively low participation in tertiary education, even with boom in this sector of education, the aggregate picture is changing only gradually.

⁴ All quantitative data cited in this section are based on information from the Eurostat online database (<http://ec.europa.eu/eurostat/data/database>).

In order to get a more precise picture of the phenomena currently observed in the tertiary education sector of EU countries, it is better to restrict our attention to the population at the age that follows the typical period in which tertiary education is pursued. In the latest strategic EU document, *Europe 2020*, the population aged 30-34 is treated as a reference category. Such a choice may be justified by the fact that quite often, particularly in the more developed countries, young people prolong their period of study, take a gap year, change their field of study, etc. As a result, they graduate in their late 20s. That is why it seems that a population aged 30-34 is the most appropriate for analysing changing patterns of tertiary educational attainment.

2.1. Tertiary educational attainment among young people

In the area of tertiary education, the Europe 2020 Strategy set the headline target that at least 40% of 30-34 year olds should have a tertiary or equivalent qualification by 2020⁵. According to the most recent data available in Eurostat (2014), the share of tertiary education graduates among people aged 30-34 ranged from 23.9% in Italy up to 53.3% in Lithuania (Figure 1). Among the countries with the highest share of tertiary education graduates, we may find both countries with high levels of GDP per capita, like Luxemburg or Sweden, and member states with relatively low levels of economic development (Lithuania, Cyprus, Estonia). Transition economics may be found both among countries with the lowest and highest incidences of higher education. Only to a very small extent does a compulsory study fee explain the observed differences. Countries with relatively high fees include the UK (England and Wales), Ireland, Italy, Latvia, Lithuania, Hungary, the Netherlands and Slovenia. However, this fact did not prevent them from achieving high attainment rates. All in all, there is no easy explanation for the observed differences in incidences of tertiary education within the EU and we may suspect that institutional and social factors may play important roles.

⁵ Among member states with attainment rates of 40% or above, many have set national targets based on their existing attainment level, while Ireland stands out in having set the considerably higher target of 60%.

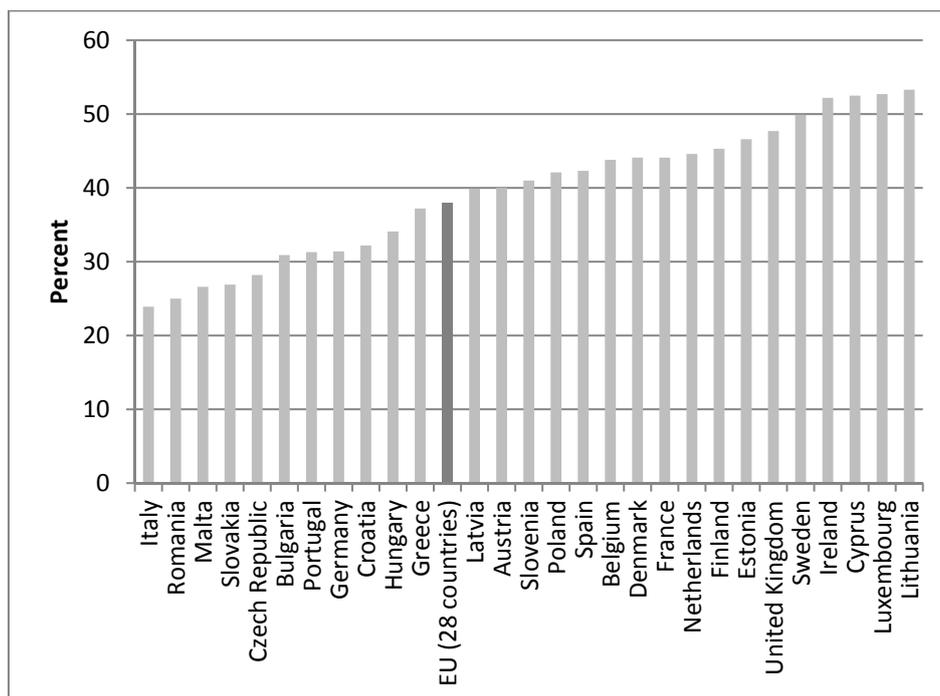


Fig. 1. Tertiary educational attainment, age group 30-34, 2014

Source: Own elaboration based on Eurostat [2015].

We have observed a convergence of patterns in the educational choices of secondary school leavers in Europe. Yet in 2000, the coefficient of variation of tertiary educational attainment was equal to 36.3%. In 2014, it fell to 23.7%. The convergence process is also documented in Figure 2. It shows that countries with relatively high incidences of tertiary education at the beginning of the observed period (2000) experienced relatively low increases of tertiary educational attainment. In countries such as Finland, Denmark and Belgium, the increase of the tertiary educational attainment rate did not exceed 10%. However, in transitional economies (Poland, Slovakia, Latvia, the Czech Republic and Romania), the tertiary educational attainment rate more than doubled. Out of the old EU member states, countries with the most intensive development of the tertiary education sector include Portugal, Austria and Luxembourg. In the case of the biggest European economies (e.g., Germany), the growth was quite moderate.

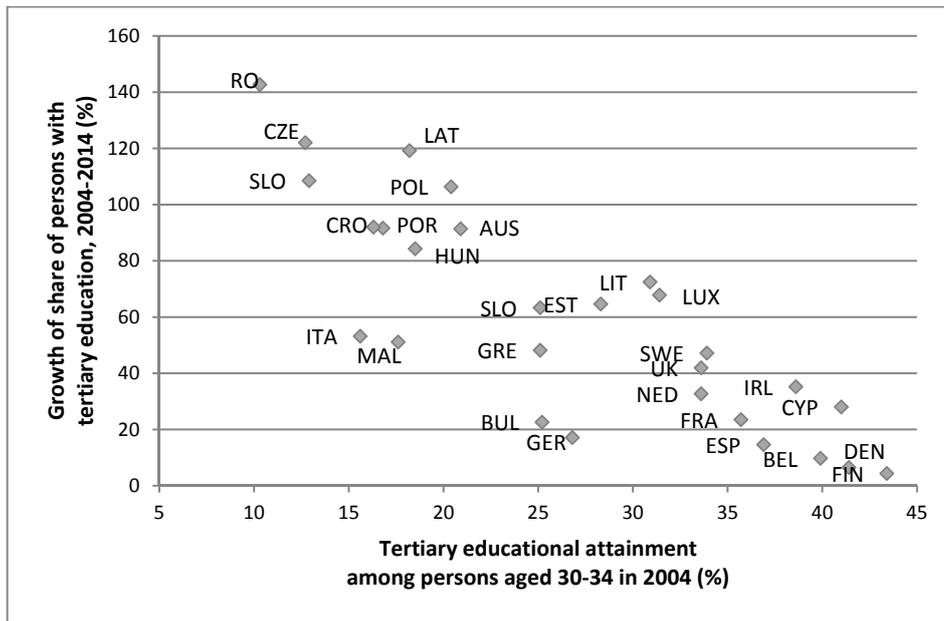


Fig. 2. Convergence of the tertiary educational attainment in EU member states

Source: Own elaboration based on Eurostat [2015].

2.2. Changes in tertiary educational attainment in EU member states: country typology

On the basis of current performances and a recent change in tertiary educational attainment, it is possible to distinguish four groups of member states:

1. Member states that are performing below the headline *Europe 2020 Strategy* target (40%) in terms of their current tertiary attainment rates, while managing to achieve moderate progress in recent years. This group contains mainly the post-transitional economies (Bulgaria, Croatia, the Czech Republic, Hungary, Romania, Slovakia), but also includes Italy, Malta, Portugal, Germany and Greece. The arithmetic average of tertiary educational attainment rates in this group equals 29.8%, and the difference between 2004 and 2014 is 11.8 percentage points.
2. Member states that are performing closely to the EU average, while managing to make only scarce progress in recent years. This group includes Belgium, Denmark, Finland, France and Spain. The arithmetic average of tertiary educational attainment rates in this group equals 42.9%, and the difference between 2004 and 2014 is 5.6 percentage points.

3. Member states with current attainment rates above 40%, with the largest progress being made in recent years. This group includes Austria, Estonia, Latvia, Lithuania, Poland and Slovenia. The arithmetic average of tertiary educational attainment rates in this group equals 45.1%, and the difference between 2004 and 2014 is 20.1 percentage points.
4. Member states with highest level of current attainment rates and considerable progress being made in recent years. These are Cyprus, Ireland, the Netherlands, Sweden and the UK. In their case, the arithmetic average of tertiary educational attainment rates is equal to 49.4%, and the difference between 2004 and 2014 is 13.2 percentage points.

3. Main challenges for tertiary education systems in EU countries

Comparable data for the numbers of tertiary education graduates show that the US, Canada, Japan, Korea and Australia outperform Europe [OECD, 2014]. Relatively low tertiary or equivalent education attainment levels can hinder competitiveness and undermine Europe’s potential to generate economic growth. European labour-market projections indicate that around 35% of all jobs will require tertiary graduate-level qualifications by 2020 [CEDEFOP, 2010]. However, only 28% of the EU’s labour force was qualified at this level in 2014.

Because of the differences between national systems and different starting points in terms of higher education attainment, the problems faced by particular member states vary significantly. However, it is possible to identify three main challenges that are common to many EU member states and have a direct impact on the ability of higher education systems to provide the number of highly qualified graduates that a modern knowledge-based economy needs.

The first problem includes broadening access to higher education. It is a key problem for countries that are still making the transition from elite to mass higher-education systems, and for countries that are facing the ageing of their societies. It is necessary to attract more students from disadvantaged socioeconomic backgrounds or geographical locations, from ethnic groups and from among people with disabilities. It is probably a particular challenge for Bulgaria, Romania, the Czech Republic, Greece and Hungary.

The other issue is a reduction of dropout rates and the time it takes to graduate (complete a degree). Long study periods and a high proportion of students who fail to graduate significantly reduce the efficiency of higher education systems. To increase the efficiency of public (and private) investment in higher

education, member states need to make an effort to reduce high dropout rates. This problem is particularly severe for Austria, Belgium, France, Greece, Hungary, Italy, the Netherlands, Poland, Romania, Sweden and Slovenia.

The third problem is related to the quality of higher education and making it more relevant to the actual economy's needs. The quality of education and the positive impact of a higher education qualification on future employment chances are necessary to keep this educational path attractive for young people. With a lack of comparable data regarding the competence of graduates, graduate employment rates are an alternative criterion for assessing the relevance of higher education provision to the needs of the labour market. However, one should bear in mind that employment rates are also affected by other factors, such as business cycles. On the basis of 2014 data, Greece, Italy, Spain and Portugal stand out as member states in which recent higher education graduates have the greatest difficulties in finding work [Eurostat, 2015].

Conclusions

The recent economic crisis has delivered substantial evidence that higher education is a valuable labour market asset, particularly for a person lacking work experience. Across EU-28 countries, unemployment rates are nearly 1.5 times higher among individuals who have only an upper secondary education (9.4%) than among those who have a tertiary education (6.1%). Similarly, over 82% of people holding higher education degrees were employed, compared with less than 70% of people with an upper secondary education. Long-term forecasts on changes to the structure of the European economy suggest that the demand for the highest qualifications will grow, and that the supply of university graduates will be crucial in order to avoid bottlenecks hampering the development of the European economy. On the other hand, it is a great challenge to provide an appropriate structure of education, particularly in terms of fields of study, quality of education and access to the system. Many countries will also face problems related to the financing of tertiary education; a change from an elite model to mass education will necessarily force the reform of national systems of education [Grotkowska et al., 2015]. Tertiary education systems across EU member states will surely remain an intriguing area of economic research.

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BOOM NA EDUKACJĘ WYŻSZĄ W KRAJACH UE: KLUCZ DO ROZWOJU KONKURENCYJNOŚCI CZY STRATA ZASOBÓW?

Streszczenie: W ostatnich dekadach w większości krajów UE nastąpił znaczący wzrost udziału w populacji osób z wyższym wykształceniem. Zjawisko to, generalnie postrzegane pozytywnie jako mające sprzyjać budowie gospodarki opartej na wiedzy oraz podnoszeniu konkurencyjności gospodarek krajów UE, budzi też obawy związane z efektywnością funkcjonowania krajowych sektorów edukacji. Co ciekawe, obserwuje się znaczące różnice między krajami członkowskimi zarówno w zakresie dynamiki zmian częstości, jak i struktury kształcenia na poziomie wyższym. Celem artykułu jest omówienie wybranych różnic w zakresie odsetka osób z wyższym wykształceniem, wskazanie głównych potencjalnych konsekwencji obserwowanych zmian oraz identyfikacja najważniejszych wyzwań dla sektora edukacji wyższej w UE w najbliższych latach. Kontekstem analizy są zapisy Strategii Europa 2020.

Słowa kluczowe: wykształcenie wyższe, struktura wykształcenia, konkurencyjność, Unia Europejska, Strategia Europa 2020.